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es long, and that Short-tailed Albatrosses breed on islands off the Coast of Alaska, and that the Western Savannah Sparrow is "a slightly paler form of the preceding" (said preceding being, according to the book, *Poocetes gramineus confinis*), and show us pale pink Crossbills and Jenny Wren Dippers and California Jays without any blue in their plumage, all in the name of daily bread, why, I say, it is time for censorship.

It is a poor compliment to our Western intelligence that this sort of slush is offered to our public, and offered too in the name of a reputable publisher, Doubleday, Page & Co., forsooth. Are we so provincial, are we so unsophisticated, are we so jejune that any old thing will go with us? Perhaps we do deserve our fate. The undiminished sales of a certain one volume flexible known as "The Birds of California" would seem to point that way. We would best munch our biscuit meekly and retire to our kennel to doze until such time as some one shall arise among us with wit enough and conscience enough and courage to prepare an *accurate* pocket guide to western birds. We have asked for bread and they have given us, if not a stone, at least a raw compound of meal and gravel.

## A SECOND LIST OF THE BIRDS OF THE BERKELEY CAMPUS

By JOSEPH GRINNELL

Contribution from the University of California Museum of Vertebrate Zoology

ON JANUARY 28, 1911, the writer of the present paper published\* a nominal list of the "Birds of the Berkeley Campus", together with a brief statement of the avifaunal conditions in the area under consideration.

For two reasons it has seemed advisable to publish a "Second List"†. First, because the early exhaustion of the 500-separate edition of the first list evidenced a local need for a folder of this sort, both in the University and in the public schools of Berkeley and Oakland; and second, because since the appearance of the 1911 list many additional species have been seen on the Campus and much detailed information has been gathered, not only by the writer himself, but also by several well-qualified observers, who kindly placed their notes at his disposal.

The University of California Campus, the area considered in this paper, comprises about 530 acres rising from an elevation of 200 feet at its western edge in the city of Berkeley to a height of 1300 feet at its eastern boundary near the crest of the Berkeley hills. Cutting down from these hills are several ravines or canyons. Heading in the larger of these ravines, Strawberry Creek courses in a general westerly direction through the whole length of the Campus.

Within its 530 acres the Campus furnishes shelter to birds of widely varying associational preferences. The hills from a distance look bare and untimbered save for interrupted tracts of newly-planted pine and eucalyptus. But these really well-grassed hill-slopes constitute a favored haunt of a distinct category of birds, of which the Meadowlark is a characteristic example. The chaparral, or brush, is of two distinct types: one, of which the commonest plant is a dark-foliaged, woody composite (*Baccharis*), is wide-spread on some of the upper slopes, and the other, consisting of snow-berry, hazel and brake, on north-facing and shaded slopes. In the upper part of Strawberry Creek basin are several clumps of madroñas, while

\* Reprint from the University of California Chronicle, vol. XIII, no. 1, 4 pages (unnumbered).

† An edition of 1000 reprints of the present paper is issued.

the stream-courses are lined with bay (or California laurel), alder, and willow. Clumps of bay occur in the heads of the upper ravines and even on the crests of the highest hills. The prevalent tree over the whole Campus is the live-oak, which reaches large dimensions on the lower Campus, and occurs in smaller size mixed with the chaparral of the lower hill-slopes.

The upper, hilly portion of the Campus consists chiefly of truly "wild" land, save as the open parts have been pastured over for many years. This element of wildness accounts for the occurrence of many of the less familiar species of birds. Then on the lower Campus, the growth of planted groves, and gardens, has added to the native features attractive to bird-life. In spite of this, however, there has been a notable decrease in the past six years in the aggregate native bird population. This is partly accounted for by the building up closely of the lower and more level country (and to this extent it is inevitable), and partly by the ravages of house cats and the increase of the English Sparrow.

Number of birds to be seen at any one time is pretty constant. A daily "horizon", that is, the number of species noted in the course of one day's or part-day's observation, consists ordinarily of 20 to 24 species. On July 3, 1909, the writer recorded 29 species; on February 11, 1911, 26 species; on March 25, 1911, 22 species; on January 20, 1912, 20 species. On October 18, 1913, a four hours census showed 27 species and 410 individuals.

There is little evidence of the semi-annual migratory movement of the birds, so conspicuous in some parts of the United States. Our list of transient species is short, and relatively very few individuals of any of the non-resident categories are *through* migrants; the summer visitants and the winter visitants, in each case, simply arrive scatteringly to stay for the season, and their departure is so gradual as to often go unnoticed.

From a distributional standpoint, the Berkeley Campus is situated in the Upper Sonoran life-zone, with a marked Transition or even Boreal infusion noticeable particularly in the summer-visitant category of birds. Of the latter are to be listed the Olive-sided Flycatcher, Western Wood Pewee, Cassin Vireo, Tolmie Warbler, and Allen Hummingbird. The resident Coast Jay, Pine Siskin and Nuttall Sparrow are typically birds of the cool humid coast strip of California. It looks as though the amount of the gap in the continuity of the coast fauna at Golden Gate were simply transported to the eastward across the bay by the pre-vaillingly west winds and deposited on the west-facing slopes adjacent to Oakland and Berkeley.

The writer's cordial acknowledgments are hereby extended to Mrs. Amelia Sanborn Allen, Mrs. Hilda Wood Grinnell, Miss Margaret W. Wythe, Dr. Harold C. Bryant, Mr. Tracy I. Storer and Mr. Harry S. Swarth, for notes and records furnished by them. It is chiefly because of the contributions from their stock of information, as recorded in their field note-books, that the writer is able to furnish the accompanying annotations. Initials are used to designate responsibility for specific records.

Classified seasonally we find that 33 of our birds are permanent residents, 21 are summer visitants, 29 are winter visitants and 14 are transients. A total of 97 species is now accredited to the Berkeley Campus, as against 76 three years ago. It is estimated that a mean population of approximately 8000 individual birds is maintained throughout the year within the area here treated.

Because of the arbitrary limitation of the present list to those species which have been seen on the University grounds, a number of well-known birds of the San Francisco Bay region are notably missing. Many of these, such as the Barn

Swallow, Yellow-throat, and Red-winged Blackbird, will doubtless be added in course of time, at least as transients. Intensive observation from season to season for a series of years may be expected largely to augment the list, judging from experience under similar circumstances elsewhere. This very element of incompleteness and expectancy serves as a continual incentive to those interested in bird study to be always alert for the detection of strangers as well as for additional facts concerning well-known species.

CALIFORNIA GREAT BLUE HERON. *Ardea herodias hyperonca*. A rare transient. One seen in flight high over the Campus at 8:30 A. M., April 5, 1913 (H. C. B.).

BLACK-CROWNED NIGHT HERON. *Nycticorax nycticorax naevius*. Occurs as a transient only. The harsh "squawk" has been heard on several occasions at night during the month of September (J. G.). November 2, 1913, three were noted flying low over the hills in a fog (H. C. B.).

KILLDEER. *Oxyechus vociferus vociferus*. Transient only. Heard in flight overhead in April and in August (J. G.).

CALIFORNIA QUAIL. *Lophortyx californica californica*. Common resident. While showing marked preference for tracts of chaparral among the hills, coveys and, occasionally in spring, pairs rove down over the lower Campus. On July 6, 1912, a brood of nine young were hatched in a nest beneath one of the little redwood trees at the back of the Museum building. This brood, with the two alert and constantly attendant parents, remained in the vicinity for five days, before moving up Strawberry Creek to wilder ground. On July 10, there was still the full quota of nine young, which indicates astonishing success in eluding the many prowling cats by night and dogs by day.

BAND-TAILED PIGEON. *Columba fasciata fasciata*. Sporadic winter visitant. On January 5, 1913, at 11 A. M., a flock of eight was observed as it slowly skirted the hillside below the Big C, flying against a strong north wind (J. G. and H. W. G.).

WESTERN MOURNING DOVE. *Zenaidura macroura marginella*. Casual transient. On May 11, 1913, at 12 M., a solitary dove was seen flying swiftly north just over the tree-tops near Budd Hall (J. G.).

TURKEY VULTURE. *Cathartes aura septentrionalis*. Summer visitant. Not infrequently seen in June and July in flight above the hills.

MARSH HAWK. *Circus hudsonius*. Casual winter visitant. One seen harrying over the hillside near the Big C, September 15, 1912 (J. G.).

SHARP-SHINNED HAWK. *Accipiter velox*. Common winter visitant. Earliest fall records: September 30, 1910, September 22, 1912, and October 18, 1913 (J. G.). Seen on all parts of the Campus, and even among shade-trees along city streets.

COOPER HAWK. *Accipiter cooperi*. Fairly common winter visitant. Observed only along the upper part of Strawberry Creek canyon. Early record: September 15, 1912 (J. G.).

WESTERN RED-TAILED HAWK. *Buteo borealis calurus*. Common resident. Occurs all through the hills, where it feeds on the abundant meadow-mice. The stomach of a Red-tailed Hawk taken December 28, 1912, in the Berkeley Hills contained one meadow-mouse and two Jerusalem crickets (H. C. B.). This is the usual big "chicken-hawk", though not fairly so called, in sight almost continually, and circling or poising against the wind above the ridges.

AMERICAN SPARROW HAWK. *Falco sparverius sparverius*. Fairly common resident. Often seen about the hilltops, hovering against the wind, or perched on

some fence-post. Occurs in winter around the Campus buildings, where, with some individuals, a regular roost has been chosen on some projecting cornice or on the tip of a flag-pole.

**BARN OWL. *Aluco pratincola*.** Common resident. Many roost during the day around the buildings on the Campus, and after dark become much in evidence through their wierd vocal demonstrations. They forage far and wide over the city as well as among the hills, feeding exclusively on mice and gophers. A brood was reared on the roof of South Hall in the summer of 1913.

**CALIFORNIA SCREECH OWL. *Otus asio bendirei*.** Common resident. The mellow trill is often heard at night among the oaks of the lower Campus. On the afternoon of October 22, 1908, a Screech Owl was located in a bay-tree near the Faculty Club, where it was being "mobbed" by a much agitated aggregation of Kinglets, Audubon Warblers and Titmice. In one instance a pair of these little owls found its way into the Harmon Gymnasium where its presence excited considerable comment.

**PACIFIC HORNED OWL. *Bubo virginianus pacificus*.** Common resident. The sonorous calls may be heard almost nightly along the east side of Berkeley, emanating from among the hills. Many feathers of Horned Owls are often to be seen along the barbed-wire fences over the hills, where the birds evidently go on the look-out for meadow-mice. A pair of Horned Owls has roosted from time to time for several years in eucalyptus or cypress trees on the northeast side of the Greek Theatre. The stomach of a bird shot in the Berkeley Hills contained two meadow-mice and 27 Jerusalem crickets (H. C. B.).

**BELTED KINGFISHER. *Ceryle alcyon*.** On August 20, 1908, one visited a goldfish pond at Mr. Warren Cheney's garden, 2241 College Avenue; no fish were actually taken out, but one was found dead the next day with a wound in its side (A. S. A.).

**WILLOW WOODPECKER. *Dryobates pubescens turati*.** Resident in very small numbers. A pair has its regular forage-beat along the lower course of Strawberry Creek, from above the College Avenue entrance to the Sather Gate. Live-oaks are worked upon principally.

**NUTTALL WOODPECKER. *Dryobates nuttalli*.** On July 16, 1913, one was closely observed by Dr. L. H. Miller and his summer-session class. It was working in the oaks in Strawberry Creek canyon just above Senior Women's Hall.

**SIERRA RED-BREASTED SAPSUCKER. *Sphyrapicus varius daggetti*.** Irregular winter visitant in small numbers. Seen as early as September 30, 1904 (A. S. A.). A late spring date was March 18, 1911 (T. I. S.). Most often detected in January and February. One bird worked daily one winter season in the oak at the northeast corner of the Museum building. The bark of the upper branches of this oak is riddled with little holes, arranged in transverse circles. Some of these series are evidently many years old.

**CALIFORNIA WOODPECKER. *Melanerpes formicivorus bairdi*.** Irregularly resident. Said to have been numerous many years ago. Not seen of late years, until September 7, 1911 (T. I. S.), when a pair put in its appearance among the oaks of the lower Campus. Thenceforth observed in the vicinity at frequent intervals until September 15, 1912 (A. S. A.), after which date none was seen. The presence on the Campus of as many as three pairs was accounted for at one time, March 19, 1912 (J. G.).

**LEWIS WOODPECKER. *Asyndesmus lewisi*.** September 17, 1911, at 10 A. M., one was plainly seen in north-to-south flight overhead about in line with Bacon Hall (H. S. S. and J. G.). Professor William E. Ritter has informed the writer that this woodpecker was formerly a not uncommon visitor to the Campus.

RED-SHAFTED FLICKER. *Colaptes cafer collaris*. Common resident. While most numerous in winter, several cases of nesting have been reported. Quite often individuals are seen about the lower Campus, sometimes perching on buildings.

ANNA HUMMINGBIRD. *Calypte anna*. Common resident, likely to be seen on any part of the Campus. Of regular presence around the botanical garden and along the plantings of red geraniums and tobacco elsewhere. Nests have been found situated in live-oak trees on the lower Campus.

ALLEN HUMMINGBIRD. *Selasphorus alleni*. Common summer visitant. Arrives very early; first dates: February 25, 1904, February 13, 1906, March 14, 1911, and February 24, 1913 (A. S. A.). The grove around the Greek Theatre is a favorite resort for both species of hummingbird. Nests have been found there, as also along the upper Strawberry Creek. March 15, 1913, a nest and two eggs was found within ten feet of this stream, located in a shrub two feet above the ground (H. C. B.). The adult males are most likely to be found high on the hillsides, at the upper edges of the tracts of chaparral.

SAY PHOEBE. *Sayornis sayus*. Observed but rarely on the Campus and only as an early winter visitant. September 19 and 21, 1913, one stayed around the foot-ball bleachers (J. G.). October 16, 1911, at early dusk, one was observed fly-catching on the roof of the Fertilizer Control building (J. G.). November 16, 1912, one was seen in an orchard on the hillside above Mosswood Road (A. S. A.).

BLACK PHOEBE. *Sayornis nigricans*. Resident in small numbers. Occurs singly or in pairs along the ravines (when these contain running streams), around the milk ranch up Strawberry Creek canyon, and occasionally on lawns and in gardens, especially where there are fountains. One bird in 1913 had a regular forage-beat between the Greek Theatre and Bacon Hall.

OLIVE-SIDED FLYCATCHER. *Nuttallornis borealis*. A summer visitant, having been seen during the months of May to August, inclusive. Earliest observed arrival, May 1, 1913 (J. G.). During May and June the far-reaching, three-syllabled cry of this bird can be heard from almost every point on the Campus. But the birds themselves adhere closely to stations along the bases of the hills, usually in the pine and eucalyptus groves. The call is generally given by the bird as it perches at the summit of a eucalyptus, or upon the bent-over tip-top of a cypress. The grove immediately around the Greek Theatre has been the regular rendezvous of a pair during each of the preceding five summers. Another pair is located near the Institution for the Deaf and Blind; another has been seen near the Center Street entrance. No nests have been seen, but there is no doubt that broods are reared regularly in the vicinity.

This is an occurrence of more than local interest; for the Olive-sided Flycatcher is a typically boreal bird, and, moreover, one that affects evergreen forests as a rule. Yosemite Valley, for instance, exhibits the type of habitat preferred by this species. Its appearance here within the past few years seems to be correlated with the growth of the planted groves, together with the presence of a cool summer climate.

WESTERN WOOD PEWEE. *Myiochanes richardsoni richardsoni*. Summer visitant, observed in varying numbers from year to year during the months from May to August, inclusive. Earliest recorded arrival, April 21, 1913 (A. S. A.). Nesting sites are selected along the alder-lined ravines, as well as among eucalyptus groves wherever these occur. One occupied nest was observed July 24, 1909 (J. G.). It was located 25 feet from the ground on a bare horizontal eucalyptus

branch over the path between the women's tennis courts and the Hearst Gymnasium.

**WESTERN FLYCATCHER.** *Empidonax difficilis difficilis*. Common summer visitant. Arrivals have been noted as follows: March 28, 1906 (A. S. A.); March 21, 1911, and March 28, 1912 (J. G.); April 1, 1913 (T. I. S.). Last for the season: September 24, 1908, and September 15, 1912 (J. G.). Nests are located along shaded ravines and in the eucalyptus groves. In one case a brood was reared in a nest ensconced in a niche 18 feet above the ground in the side of an oak trunk near the Faculty Club. In another instance, the nest was built in a fern basket on a porch at 2243 College Avenue. This site was but five feet from a frequently used door, and it was only two feet from the porch-light which shone into the nest on frequent occasions in the evening without appearing to disturb the birds. On May 17 (1908) this nest held four eggs, and two young were successfully reared. In 1909, the same site was chosen, but the nest was subsequently deserted (A. S. A.).

**CALIFORNIA HORNED LARK.** *Otocoris alpestris actia*. A resident species in parts of the San Francisco Bay region, but detected on the Campus only once: a small company seen on the hillside near the Big C, April 3, 1912 (T. I. S.).

**COAST JAY.** *Cyanocitta stelleri carbonacea*. Fairly common resident. Ordinarily restricted closely to the dense growths of bay, live-oak and madroña, up Strawberry and Woolsey canyons, and to the thick grove of planted evergreens around the Greek Theatre. In cloudy or foggy weather the birds rove down over the lower Campus, occasionally even to the Center Street entrance. This is typically a bird of the thick woods in the humid coast belt of California. Around Berkeley, which is somewhat outside of its metropolis, its choice of local environment emphasizes these predilections.

**CALIFORNIA JAY.** *Aphelocoma californica californica*. Abundant resident. A familiar and noisy forager all over the Campus. During the foot-ball season, the jays visit the bleachers regularly for scattered popcorn and peanuts. Acorns in their season constitute a preferred food-source, and many of these are buried by the jays, presumably for future use. Nests are constructed in oak-trees, sometimes on the busiest parts of the Campus. One occupied nest observed March 25, 1911, was placed 25 feet above the ground in a centrally-situated foliage-mass directly over the sidewalk across the road south of the old Chemistry building.

**PINYON JAY.** *Cyanocephalus cyanocephalus*. Rare transient. On October 5, 1911, at 2 P. M., a flock of fully 75 was watched flying south over the Campus. The chorus of characteristic calls first attracted attention; and this, together with the mode of flight and silhouette, rendered recognition perfectly satisfactory (H. S. S. and J. G.).

**WESTERN MEADOWLARK.** *Sturnella neglecta*. Abundant resident on the grassy hill-tops. Also at times visits vacant lots in the city. Before close settlement of the lowlands, it abounded as a regular inhabitant throughout our region.

**BULLOCK ORIOLE.** *Icterus bullocki*. Summer visitant in very small numbers. Dates of first seen: March 31, 1904, April 6, 1911, April 13, 1912, and April 10, 1913 (A. S. A.). A pair had a nest in 1908 in a eucalyptus tree near the Zeta Psi fraternity house on College Avenue (A. S. A.). A full-grown juvenal was seen near the Faculty Club, July 3, 1913 (H. C. B.).

**BREWER BLACKBIRD.** *Euphagus cyanocephalus*. Common resident on the lower part of the Campus. A colony nests each year in the big pines near the

Center Street entrance. During the summer months old and young forage conspicuously over all open ground for grasshoppers and army worms.

CALIFORNIA PURPLE FINCH. *Carpodacus purpureus californicus*. Common resident. Found foraging quietly during fall and winter in the upper reaches of the ravines among the hills. In spring and summer the species occurs among trees, especially pine and cypress, on many parts of the lower Campus, where during the months of April and May its loud song is notably in evidence. March 17, 1911, the full song was first heard for that season (J. G.).

CALIFORNIA LINNET. *Carpodacus mexicanus frontalis*. Common resident, occurring up on the hills in fall and winter, and scattered over the lower Campus in the breeding season. Here they nest about the ivy-clad buildings. Ten pairs were estimated to be nesting around the old Chemistry building in 1911.

AMERICAN CROSSBILL. *Loxia curvirostra minor*. Irregular winter visitant. On February 7, 1909, and for at least ten days previously, several small flocks were to be seen high about the tops of the evergreens around the Greek Theatre and near the Center Street entrance.

WILLOW GOLDFINCH. *Astragalinus tristis salicamans*. Known to be regularly resident in the San Francisco Bay region, but as far as the Campus is concerned reported during the summer only. Earliest record, April 26, 1913, and latest, October 12, 1912 (A. S. A.). Many are to be seen in July on the hillsides towards the head of Strawberry Creek canyon, feeding on thistle-heads in company with linnets.

GREEN-BACKED GOLDFINCH. *Astragalinus psaltria hesperophilus*. Common resident, occurring in flocks in patches of star-thistle on the hillsides in winter, and at other seasons scattered over the Campus generally, even along the city streets, in pairs or small companies. Often seen feeding fearlessly on dandelion heads on lawns. Nests are built frequently in garden trees, as also in live oaks. Occupied nests have been noted in May and July. Two nests containing young were observed the last week in August, 1908 (J. G.). This bird bears the book-name of "Arkansas" Goldfinch, as well as the above more appropriate one.

LAWRENCE GOLDFINCH. *Astragalinus lawrencei*. Observed only as a summer visitant. In June and July, 1909, several pairs were repeatedly seen among live-oaks up Strawberry Creek (J. G.).

PINE SISKIN. *Spinus pinus pinus*. Common resident, often associating with the Green-backed Goldfinch. In winter the two species are to be met with in large mixed flocks on the hillsides. February 7, 1909, a dense flock of fully 100 was foraging on the bare ground near the crest of a ridge. Every now and then they would rise in a cloud and attempt to fly across the ridge against the stiff westerly wind, but, apparently failing, would be swept back over the crest, to alight again on the ground. Often observed in spring and summer feeding on dandelion heads on lawns. A nest was discovered in a pine in June, and many yellow-suffused young on the wing were observed by August 4 (1912) (J. G.).

This is another bird of ordinarily Boreal habitat, which finds the cool Berkeley climate to its liking and thus helps to lend a northern complexion to our fauna.

ENGLISH SPARROW. *Passer domesticus*. Abundant resident on the lower portion of the Campus. Flocks forage up onto the hills in late summer and fall. Not yet seen up Strawberry Creek beyond the swimming pool. Numbers notably increasing during the past six years. Increase of this exotic interloper is correlated significantly with decrease in numbers of certain native birds. As yet nests are located almost exclusively about the ivy-covered buildings. Breeds from April to August.



WESTERN SAVANNAH SPARROW. *Passerculus sandwichensis alaudinus*. Fairly common winter visitant; occurring in grassy swales among the hill-tops. Often noted during the period from December to February in the near vicinity of the Big C.

WESTERN LARK SPARROW. *Chondestes grammacus strigatus*. Observed only from May to August and in sparse numbers. The hills above North Berkeley seem to be most favorable to this species. Not recorded on the Campus proper since 1909.

INTERMEDIATE SPARROW. *Zonotrichia leucophrys gambeli*. Common winter visitant. Frequents detached brush-patches in scattering flocks, chiefly on the hillsides. Earliest fall dates: September 25, 1906, and September 19, 1907 (A. S. A.); October 6, 1910 (J. G.); September 16, 1912, and September 24, 1913 (A. S. A.).

NUTTALL SPARROW. *Zonotrichia leucophrys nuttalli*. Common resident. Frequents garden shrubbery in town and on the lower Campus, as well as the patches of snow-berry brush and brakes on the shaded hillsides. Nest with young found in clump of pampas-grass in botanical garden, April 5, 1913 (H. C. B.). More numerous in winter, and often flocking with the Golden-crowned Sparrow.

GOLDEN-CROWNED SPARROW. *Zonotrichia coronata*. Abundant winter visitant. Affects brush-patches and shrubbery all over the University grounds. Dates of first appearance in the fall: September 28, 1904, and September 29, 1907 (A. S. A.); October 27, 1908 (J. G.); October 6, 1912, and October 2, 1913 (A. S. A.). Dates of departure in the spring: May 3, 1904, and April 26, 1913 (A. S. A.).

WESTERN CHIPPING SPARROW. *Spizella passerina arizonae*. Now a rather rare summer visitant. More seen in 1909 than in any year since. Dates of arrival, April 15, 1912 (T. I. S.); April 24, 1903 (A. S. A.). Latest fall record, September 21, 1910 (J. G.).

SIERRA JUNCO. *Junco oreganus thurberi*. Irregularly abundant winter visitant. Forages in flocks, both on the ground (usually near trees) and in oak foliage, on most parts of the Campus. Early fall records: October 18, 1906, and October 30, 1907 (A. S. A.); October 17, 1908, and October 13, 1910 (J. G.); November 6, 1911 (H. C. B.); October 17, 1912 (A. S. A.); October 14, 1913 (T. I. S.). Time of departure in the spring: March 30, 1911, and April 14, 1912 (J. G.). On July 10, 1912, an adult pair was discovered in the grove at the east side of the Greek Theatre, and was closely watched for one hour (H. W. G. and J. G.). Although no evidence of actual nesting was secured, the behavior of the birds led to the belief that they were at least "prospecting" for a nesting site. It is possible that sooner or later, as the planted groves become denser and taller, a breeding colony of Juncos will establish itself here, as has been the case in the Arboretum at Stanford University.

RUFIOUS-CROWNED SPARROW. *Aimophila ruficeps ruficeps*. Common resident along open hillsides, affecting the sparse growths of California sage on the south and west-facing slopes. At Professor H. M. Hall's residence, 1615 La Loma Avenue, this ordinarily reclusive species has come to be a familiar door-yard bird, even entering the house regularly, when allowed to, to be fed. The parent birds have brought their young there from the adjacent hill-slope for several successive seasons.

SANTA CRUZ SONG SPARROW. *Melospiza melodia santaecrucis*. Abundant resident along the stream-courses. Many appear in winter in the weed-patches towards the heads of the ravines.

VALDEZ FOX SPARROW. *Passerella iliaca sinuosa*.

YAKUTAT FOX SPARROW. *Passerella iliaca meruloides*. Irregularly common winter visitant, affecting the dense chaparral of the ravines and north-facing hill-sides. First dates: October 12, 1912, and October 4, 1913 (A. S. A.). Latest dates: March 25, 1911 (J. G.); April 24, 1913 (A. S. A.). It is not feasible to assign these records accurately under one or the other of the sub-species named. There are specimens representative of both sub-species, and labelled "Berkeley", in the Museum's collection of bird-skins.

SAN FRANCISCO TOWHEE. *Pipilo maculatus falcifer*. Common resident of the dense hillside chaparral, and thickets along stream-courses. Occurs at times down along Strawberry Creek at least to the Sather Gate. A pair reared a brood in 1909 close to the Faculty Club bridge. Often called Oregon Towhee, or Spurred Towhee.

CALIFORNIA BROWN TOWHEE. *Pipilo crissalis crissalis*. Abundant resident. Affects shrubbery of all sorts, occurring along city hedges and about gardens, as well as through the hills. A nest with young was located in an oak tree near the Center Street entrance, May 17, 1913 (H. C. B.).

PACIFIC BLACK-HEADED GROSBEEK. *Zamelodia melanocephala capitalis*. Fairly common summer visitant. Affects deciduous trees about the Campus and city, as well as alders and oaks up the canyons. Most numerous in late July and August when old and young congregate about the fruiting elderberry bushes on the canyon slopes. Dates of earliest seasonal record: April 16, 1904, April 18, 1911, and April 13, 1912 (A. S. A.); April 16, 1913 (H. C. B.).

LAZULI BUNTING. *Passerina amoena*. Common summer visitant. In May, 1909, singing males were spaced out along Strawberry Creek down as far as Budd Hall. But, more recently, seen only in the upper parts of the canyon. Earliest date of observation, April 24, 1913 (A. S. A.). Nest with two small young in thick growth of brakes one foot above ground, July 3, 1909 (J. G.).

WESTERN TANAGER. *Piranga ludoviciana*. Irregularly transient. Seen in bay trees along Strawberry Creek and in ornamental trees about town, May 14 to 19, 1911 (J. G.), and May 8, 1913 (A. S. A.). One fall record: August 18, 1908 (A. S. A.).

CLIFF SWALLOW. *Petrochelidon lunifrons lunifrons*. Fairly common summer visitant. Dates of first observation: March 14, 1911 (A. S. A.); March 5, 1913 (H. C. B.). Nested for several years on the old dairy barns up Strawberry Creek canyon.

CEDAR WAXWING. *Bombycilla cedrorum*. Irregularly common late-winter visitant. Forages in flocks of 20 to 50, in pepper-trees, wherever these occur, as along city streets. Latest occurrence, May 4, 1913, when a flock of 35 was seen perched at the top of a eucalyptus tree near the Civil Engineering building (H. W. G. and J. G.).

CALIFORNIA SHRIKE. *Lanius ludovicianus gambeli*. Rather scarce resident. Occasional individuals are seen on the open parts of the lower Campus. A pair has its quarters in the pastures above the upper dairy farm, up Strawberry Creek. In a long tramp over the hills, including Grizzly Peak, February 7, 1909, just three shrikes were encountered, all told (J. G.).

WESTERN WARBLING VIREO. *Vireosylva gilva swainsoni*. Common summer visitant. Disperses widely along canyons and among deciduous trees on the Campus and sometimes along the city streets. Early spring records: March 25, 1904, and March 29, 1906 (A. S. A.); March 30, 1911 (J. G.); March 25, 1912 (A. S. A.); March 25, 1913 (H. C. B.). Disappears by the end of August.

CASSIN VIREO. *Lanivireo solitarius cassini*. Rare summer visitant. In June, 1909, a pair was evidently nesting along Strawberry Creek near the Faculty Club. The male was in full song, and was closely observed on several occasions.

HUTTON VIREO. *Vireo huttoni huttoni*. Common resident of the live-oaks up Woolsey and Strawberry Creek canyons. Occasional pairs occur among the oaks on the lower Campus. The peculiar nuptial song is heard as early as February 15.

CALAVERAS WARBLER. *Vermivora ruficapilla gutturalis*. Rare transient. Two were closely observed as they foraged through the foliage of bay trees and willows in the head of a ravine near Grizzly Peak, September 15, 1912 (J. G.).

LUTESCENT WARBLER. *Vermivora celata lutescens*. Common summer visitant. Arrives early: March 21, 1906 (A. S. A.); March 19, 1911, and March 15, 1912 (T. I. S.); March 5, 1913 (H. C. B.). Remains well into September; latest date, September 25, 1908 (J. G.). A forager chiefly in the foliage of live-oaks both among the hills and down on the Campus proper; but nests are located exclusively along creek-banks. A nest found June 12, 1913, was ensconced in a cavity of the ground among dead leaves and vines on the wall of the creek within ten feet of the foot-bridge near the Center Street entrance. There were three fresh eggs at this date (J. G.).

CALIFORNIA YELLOW WARBLER. *Dendroica aestiva brewsteri*. Common summer visitant. Dates of arrival: April 21, 1911 (A. S. A.); April 12, 1912, and April 1, 1913 (T. I. S.). Remains regularly until the middle of September, at which time small companies affect the tree-tops, "chipping" loudly, especially towards sunset. Late dates: September 25, 1908, and September 17, 1910 (J. G.). This warbler is partial to deciduous foliage, and its shrill song may often be heard from the elm-trees which line many of Berkeley's streets.

ALASKA MYRTLE WARBLER. *Dendroica coronata hooveri*. In all probability occurs as a regular winter visitant; but in winter plumage it is so similar to the Audubon Warbler, that the two species are doubtless often confounded. But after the spring molt sets in, sharp distinctions in coloration become apparent. Myrtle Warblers have been seen in numbers in April, foraging in the new foliage of live-oaks around the Museum building. Exact dates were: April 13, 14 and 15, 1912 (J. G. and T. I. S.); March 30 and April 21, 1913 (J. G.).

AUDUBON WARBLER. *Dendroica auduboni auduboni*. Abundant winter visitant, affecting all sorts of trees, chaparral, and even garden shrubbery. Frequently observed fly-catching about the windows and cornices of buildings in the heart of town. Dates of first observation in the fall: October 19, 1904, October 15, 1906, and October 6, 1907 (A. S. A.); October 8, 1908, and October 9, 1910 (J. G.); October 24, 1911, and September 30, 1912 (H. C. B.); September 23, 1913 (T. I. S.). Latest date of observation in the spring, April 15, 1912 (J. G.).

BLACK-THROATED GRAY WARBLER. *Dendroica nigrescens*. Rare transient. Seen repeatedly in the oaks below Mosswood Road in September, 1912. First seen September 15, and small flocks remained in the vicinity for several days thereafter (A. S. A.).

TOWNSEND WARBLER. *Dendroica townsendi*. Fairly common winter visitant, occurring as a tree-foliage forager, with predilections for live-oaks and conifers. Dates of arrival in the fall: October 2, 1904, October 10, 1906, September 29, 1907, and October 1, 1912 (A. S. A.); October 3, 1913 (M. W. W.). Dates of departure, as indicated by last seen: March 30, 1911, April 12, 1912, and March 30, 1913 (J. G.).

**TOLMIE (or MACGILLIVRAY) WARBLER.** *Oporornis tolmiei*. Sparse visitant in summer to certain shaded canyon sides among the hills. The dense chaparral on the north-facing wall of Strawberry Creek canyon harbored at least two breeding pairs in June and July, 1909; on August 4, 1912, two young in first-winter plumage were seen in thickets along Strawberry Creek just above the College Avenue entrance (J. G.).

**LONG-TAILED CHAT.** *Icteria virens longicauda*. Rare transient: heard in early May, 1909, from thickets along Strawberry Creek (J. G.).

**GOLDEN PILEOLATED WARBLER.** *Wilsonia pusilla pileolata*. Common summer visitant, occurring chiefly in thickets close along ravine bottoms. Dates of arrival: March 27, 1911, March 30, 1912, and March 31, 1913 (A. S. A.). In May and June, 1909, a pair nested along the creek near the Faculty Club. None has been noted after the last week of August.

**AMERICAN PIPIT.** *Anthus rubescens*. Irregular winter visitant, appearing at times in considerable flocks on the grassy hill-tops. In rainy weather a small company often visits the open plot of ground just north of the tennis courts. The first dates of seeing them there have been: October 24, 1910, and November 7, 1911 (J. G.); October 25, 1912 (H. C. B.); and October 25, 1913 (J. G.).

**CALIFORNIA THRASHER.** *Toxostoma redivivum redivivum*. Regular resident, locally, in dense chaparral along Strawberry Creek canyon. A pair, or family, has always been in evidence just below the swimming pool, extending its domain up the hillside to Mosswood Road. Another family has its station nearly at the head of the same canyon. This marvelous singer is to be heard at its best in the early mornings of clear days from March to June.

**VIGORS WREN.** *Thryomanes bewicki spilurus*. Common resident of chaparral-covered hillsides as well as brushy ravine-bottoms. Individuals rove down along Strawberry Creek nearly to the Center Street entrance.

**WESTERN HOUSE WREN.** *Troglodytes aëdon parkmani*. Common summer visitant. Earliest dates of record: March 27, 1911 (A. S. A.); March 19, 1912 (J. G.); April 21, 1913 (A. S. A.). Disappears in the fall some time before the 10th of September. Nests are situated in knot-holes of oak-trees. One pair has nested for several seasons within 50 feet west of the Faculty Club.

**WESTERN WINTER WREN.** *Nannus hiemalis pacificus*. Irregular mid-winter visitant. Observed only in brush-tangles and drift-piles along the bed of Strawberry Creek close above and below the College Avenue entrance. Earliest dates: November 3, 1908, and November 1, 1911 (J. G.). Latest dates: January 30, 1904 (A. S. A.), and April 26, 1913 (H. C. B.).

**SIERRA CREEPER.** *Certhia familiaris zelotes*. Occasional mid-winter visitant, frequenting bay-trees and alders along stream-courses. Repeatedly seen along Strawberry Creek between the Faculty Club and Budd Hall. Earliest and latest dates, respectively: December 10, 1911 (A. S. A.), and March 16, 1912 (J. G.).

**RED-BREASTED NUTHATCH.** *Sitta canadensis*. Irregularly common winter visitant, appearing among the pines near the Center Street entrance and in the evergreen grove around the Greek Theatre. Earliest and latest dates of observation: September 24, 1908 (J. G.), and March 24, 1913 (H. C. B.).

**PLAIN TITMOUSE.** *Baeolophus inornatus inornatus*. Common resident among the live-oaks of the lower part of the Campus. Natural hollows of trees are chosen as nesting sites. Unfortunately the custom on the part of the authorities in charge of the grounds, of keeping all dead branches trimmed away and knot-holes filled up with cement, makes conditions unfavorable for birds of such nesting habits to readily find suitable sites. In two cases, regularly occupied nesting

cavities have been destroyed in this manner, and the birds thereby deprived of their homes. Nesting dates are indicated by the finding of a brood of young in the nest, May 12, 1913, and five young still fed by their parents but flying about, May 29, 1913 (H. C. B.).

**SANTA CRUZ CHICKADEE.** *Penthestes rufescens barlowi*. Casual fall visitant, or sporadic transient. One individual put in its appearance in the live-oaks around the Museum of Vertebrate Zoology during October, 1913, and was observed at different times by many interested people. It was first seen October 4, but has not been reported since October 25. On the 21st it was watched from the northeast windows of the Museum building as it foraged in the oak foliage within a range of ten feet, thoroughly displaying the color-features which characterize the race *barlowi*, to the satisfaction of all beholders (J. G., H. C. B., T. I. S., M. W. W., and others).

This race of Chickadee belongs in the Santa Cruz faunal district, that is, the coastal area south from San Francisco into Monterey County. Judging from the climatic peculiarities of the immediate vicinity of Berkeley, it would appear consistent with our knowledge of geographical distribution to expect that, with the aging of our planted groves of conifers, chickadees will find conditions favorable to the establishment here of permanent colonies, as with the Olive-sided Flycatcher and other boreal, and at the same time aboreal, species.

**COAST BUSH-TIT.** *Psaltriparus minimus minimus*. Abundant resident of oak groves and chaparral, wherever these associations occur, all over the Campus. Extreme nesting dates: newly completed nest, up Strawberry Creek canyon, March 25, 1911 (J. G.), and nest with young, near Center Street entrance, June 8, 1911 (H. C. B.).

**INTERMEDIATE WREN-TIT.** *Chamaea fasciata fasciata*. Abundant resident of the chaparral-clothed areas among the hills. Pairs or family parties occasionally rove down along the stream-courses clear across the Campus, rarely to city gardens.

**WESTERN GOLDEN-CROWNED KINGLET.** *Regulus satrapa olivaceus*. Fairly common mid-winter visitant, affecting oak-trees on the Campus proper, as well as up along the canyons. Dates of arrival: October 17, 1908 (J. G.); October 3, 1912, and October 10, 1913 (A. S. A.). Not reported later than January 20, 1912 (J. G.).

**WESTERN RUBY-CROWNED KINGLET.** *Regulus calendula cineraceus*. Abundant winter visitant to all sorts of arborescent vegetation, from chaparral and garden shrubbery to the oldest evergreen groves. Dates of first observation in the fall: October 2, 1904, October 10, 1906, and October 6, 1907 (A. S. A.); October 6, 1908, and October 10, 1911 (J. G.); October 3, 1912 (H. C. B.); October 13, 1913 (A. S. A.). Latest spring record: April 13, 1912 (T. I. S.).

**SITKA KINGLET.** *Regulus calendula grinnelli*. Rare mid-winter visitant. January 23, 1911, a male of this subspecies foraged some minutes through the oak foliage within a few feet of the observers (H. S. S. and J. G.), who were enabled to make a satisfactory comparison with the ordinary Ruby-crowns outside the window—and with skins inside! Other individuals have been identified on the Campus as of this race, but not under such favorable circumstances.

**WESTERN GNATCATCHER.** *Poliptila caerulea obscura*. Observed only by Mrs. Amelia S. Allen, who has records of single individuals seen repeatedly in the chaparral above Mosswood Road. Actual dates of record are: October 4 and 12, and December 28, 1912; September 23, 1913. Apparently to be classed as a transient.

TOWNSEND SOLITAIRE. *Myadestes townsendi*. Rare and irregular mid-winter visitant. One individual observed February 26, 1909, among bay-trees along the lower Strawberry Creek. In January, 1911 (4th to 24th), and in February and up to March 15, 1913, single individuals were repeatedly seen in the pepper trees along the west side of the foot-ball bleachers (J. G. and H. S. S.).

RUSSET-BACKED THRUSH. *Hylocichla ustulata ustulata*. Common summer visitant, occurring in the larger city gardens as well as along the stream-courses on the lower Campus and up in the hills. Arrives late; dates of first observation: May 3, 1904 (A. S. A.); May 1, 1909 (J. G.); April 15, 1911 (A. S. A.); May 3, 1912 (J. G.); April 21, 1913 (A. S. A.). In full song from a few days after arrival until about July 10, after which the birds become extremely quiet. Noted in numbers up to the first week in September. Latest record: September 24, 1908 (J. G.). Nest with four small young by stream near Faculty Club June 23, 1909.

DWARF HERMIT THRUSH. *Hylocichla guttata nanus*. Common winter visitant, appearing in wet weather all over the Campus and through the town, but in dry weather restricted to the shaded canyon sides and wooded ravines. Dates of first seen in the fall: October 16, 1906, and October 16, 1907 (A. S. A.); October 15, 1908, and October 6, 1910 (J. G.); October 4, 1912 (A. S. A.); October 4, 1913 (H. C. B.). Latest spring dates: April 14, 1912 (J. G.); April 17, 1913 (H. C. B.).

WESTERN ROBIN. *Planesticus migratorius propinquus*. Irregularly common mid-winter visitant. At times considerable numbers come to the tall pines near the Center Street entrance at about sundown to roost for the night. Earliest recorded dates of observation in the fall: November 5, 1907 (A. S. A.); November 13, 1910 (J. G.); November 12, 1911, November 4, 1912, and December 14, 1913 (H. C. B.). Last seen in the spring: March 25, 1911 (J. G.); March 15, 1913 (H. C. B.).

VARIED THRUSH. *Ixoreus naevius naevius*. Irregularly common mid-winter visitant. Most numerous as a rule in tracts of bay, but at times affecting live-oaks and even brushy hillsides. Some dates of first observation are: December 1, 1906 (A. S. A.); November 16, 1911 (J. G.); November 16, 1913 (A. S. A.). Late spring records: March 27, 1911 (T. I. S.); April 5, 1912, and March 15, 1913 (J. G.).

WESTERN BLUEBIRD. *Sialia mexicana occidentalis*. Rather rare and sporadic winter visitant. Reported as having been seen on a few unspecified dates about the hill-tops within the Campus domain. February 1, 1913, a large flock was observed on the hillsides near the rifle range (H. C. B.). February 23, 1913, a company of a dozen was seen in flight along a North Berkeley hillside (J. G.).

## FROM FIELD AND STUDY

**Some Notes on Sea Birds from Los Angeles County, California.**—On October 11, 1913, at Hyperion Beach, Los Angeles County, a single charge of no. 10 shot into a flock of terns brought down four of the birds. Two of these proved to be of the more common species of the region, *Sterna forsteri*, and the other two of the less common *Sterna hirundo*. Willett in his notes on the latter species in *Pacific Coast Avifauna* no. 7, appears to consider it advisable to record actual takes of the birds, thus implying its relative scarcity. It would seem proper, therefore, to record this common flocking of the two species with the suggested equality of numbers. The writer's identification was kindly checked up and concurred in by Mr. H. S. Swarth.